

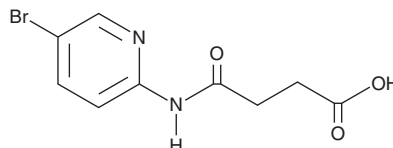
PRODUCT INFORMATION



Bikinin

Item No. 18381

CAS Registry No.: 188011-69-0
Formal Name: 4-[(5-bromo-2-pyridinyl)amino]-4-oxo-butanoic acid
MF: $C_9H_9BrN_2O_3$
FW: 273.1
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 247, 287 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Bikinin is supplied as a crystalline solid. A stock solution may be made by dissolving the bikinin in the solvent of choice. Bikinin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of bikinin in these solvents is approximately 10 and 5 mg/ml, respectively.

Bikinin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, bikinin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Bikinin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The *Arabidopsis* shaggy-related kinases (ASKs) are plant kinases that are structurally similar to a *Drosophila* kinase, shaggy, which has key roles in development. ASKs are also similar to glycogen synthase kinase 3 isoforms, which are found in plants as well as animals. Bikinin is an inhibitor of several ASK isoforms when given at a concentration of 10 μM .¹ After bikinin treatment, residual kinase activity was less than 10% for ASK α , γ , ϵ , ζ , η , ι , and 20% for ASK θ , while isoforms β and δ were not affected. Bikinin has little or no direct effect on a wide range of other kinases.¹ By inhibiting ASKs, bikinin activates signaling induced by the brassinosteroid, brassinolide.¹ Bikinin blocks the phosphorylation of SnRK2.3 by ASK η (also known as BIN2), upregulating signaling through abscisic acid (Item No. 10073).² Bikinin has been used to study the role of ASK-modulated brassinosteroid signaling in wheat and in viral infection of plants.³⁻⁵

References

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2. Cai, Z., Liu, J., Wang, H., *et al.* GSK3-like kinases positively modulate abscisic acid signaling through phosphorylating subgroup III SnRK2s in *Arabidopsis*. *Proc. Natl. Acad. Sci. USA* **111**(26), (2014).
3. Bittner, T., Nadler, S., Schulze, E., *et al.* Two homolog wheat glycogen synthase kinase 3/SHAGGY-like kinases are involved in brassinosteroid signaling. *BMC Plant Biol.* **15**:247, (2015).
4. Mills-Lujan, K., Andrews, D.L., Chou, C.-W., *et al.* The roles of phosphorylation and SHAGGY-like protein kinases in geminivirus C4 protein induced hyperplasia. *PLoS One* **10**(3), (2015).
5. Deng, X.-G., Zhu, T., Peng, X.-J., *et al.* Role of brassinosteroid signaling in modulating Tobacco mosaic virus resistance in *Nicotiana benthamiana*. *Sci. Rep.* **6**:20579, (2016).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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